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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/759,389	01/12/2001	Albert Young	3COM-3347.WHD	1629

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EXAMINER

OSMAN, RAMY M

ART UNIT PAPER NUMBER

2157

DATE MAILED: 11/05/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/759,389

Applicant(s)

YOUNG ET AL.

Examiner

Ramy M Osman

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) 3, 15 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-32 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) •
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Status of Claims*

1. This communication is responsive to the amendment filed on July 26, 2004. Applicant amended claims 1,13,14 and 21, and cancelled claims 3,15 and 23. Claims 1-32 are pending.

### *Claim Rejections - 35 USC § 103*

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1,2,5,6,11,13,14,19,21,22,25,26,31 rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US Patent No. 6,285,662) in view of Johnson (US Patent No. 5,864,558).**

4. In reference to independent claims 1 and 21, Watanabe teaches a communication network including a plurality of stations, a method and computer system respectively of accessing said network for a first station, from said plurality of stations, comprising the steps of:

monitoring a load of traffic over said communication network; measuring said load of traffic over said communication network (column 4 line 10 – column 5 line 67 and column 7 line 15 – column 9 line 67, Watanabe discloses monitoring and measuring network activity);

dynamically setting a minimum contention window (CW) value of a contention window according to said load of traffic over said communication network (column 4 line 10 – column 5 line 67 and column 7 line 15 – column 9 line 67, Watanabe discloses setting a contention window based on network transmissions).

Watanabe fails to explicitly teach wherein the monitoring is performed periodically. However, Johnson teaches periodically monitoring a network for the purpose of calculating a collision rate on the network (Summary, column 4 lines 49-67 and column 5 lines 7-20).

It would have been obvious for one of ordinary skill in the art to modify Watanabe by periodically monitoring the traffic as per the teachings of Johnson so as to calculate the collision rate over the network in order to improve latency and throughput.

5. In reference to independent claim 13, Watanabe teaches a communication network including a plurality of stations, a method of accessing said network for a first station, from said plurality of stations, comprising the steps of:

monitoring a load of traffic over said communication network; measuring said load of traffic over said communication network (column 4 line 10 – column 5 line 67 and column 7 line 15 – column 9 line 67, Watanabe discloses monitoring and measuring network activity);

Watanabe fails to explicitly teach calculating a number of transmissions over said communication network over a specific period of time as a measure of said load of traffic; calculating a total number of collisions over said communication network over said specific

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period of time as a measure of said load of traffic, wherein said total number of collisions includes a number of virtual carrier sense collisions and a number of physical carrier sense collisions over said communication network. However, Johnson teaches calculating total number of transmissions and collisions of a network, where the network operates in CSMA/CD mode with collision detection.

It would have been obvious for one of ordinary skill in the art to modify Watanabe by calculating total number of transmissions and collisions of a network as per the teachings of Johnson where the network operates in CSMA/CD mode with collision detection in order to improve latency and throughput.

dynamically setting a minimum contention window (CW) value of a contention window as a function of said number of transmissions and said total number of collisions (column 4 lines 40-67, column 5 lines 1-18 & 36-50, column 9 lines 15-54 and column 11 line 45 – column 12 line 35, Watanabe teaches setting a contention window size based on a function of transmissions and collisions).

6. In reference to claims 2 and 22, Watanabe teaches the method and computer system above. Watanabe fails to explicitly teach wherein the monitoring is performed continually.

However, Johnson discloses continuously monitoring a network every second, for the purpose of calculating a collision rate on the network. Johnson teaches wherein the monitoring is performed continually (Summary, column 4 lines 49-67 and column 5 lines 7-20).

It would have been obvious for one of ordinary skill in the art to modify Watanabe by continually monitoring the traffic as per the teachings of Johnson so as to calculate the collision rate over the network in order to improve latency and throughput.

7. In reference to claims 5,14 and 25, Watanabe teaches the network, method and computer system respectively of claims 1,13 and 21 above, wherein said plurality of stations are substantially compliant with a version of the IEEE 802.11 protocol (column 2 lines 35-67).

8. In reference to claims 6 and 26 Watanabe teaches the method and computer system respectively of claims 1 and 21 above. Watanabe teaches measuring network activity and setting a contention window size to reduce collisions (column 4 lines 10-67 and column 9 lines 17-32). Watanabe fails to explicitly teach wherein said step of measuring said load of traffic includes calculating a collision rate. However, Johnson teaches measuring network traffic by calculating a collision rate (Summary and claim 1).

It would have been obvious for one of ordinary skill in the art to modify Watanabe by measuring the network activity by calculating a collision rate as per the teachings of Johnson so as to have an accurate estimate of the collision rate when setting the contention window.

9. In reference to claims 11,19 and 31, Watanabe teaches the network, method and computer system respectively of claims 1,13 and 21 above, wherein said contention window includes a C:W value, wherein said minimum CW value of said contention window is used to calculate subsequent CW values of said contention window, whereby said subsequent CW values include a first, second, and on up to nth CW values, whereby said first CW value is calculated as two times said minimum CW value plus one, and subsequent CW values for said contention window are calculated such that  $CW_n = 2(CW_{n-1}) + 1$  (column 11 lines 46-67 and column 12 lines 8-34).

**10. Claims 4,12,20,24 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe et al. (US Patent No. 6,285,662) in view of Johnson (US Patent No. 5,864,558) in further view of Romans et al (US Patent No 6,587,453).**

11. In reference to claims 4 and 24, Watanabe teaches the method and computer system of claims 1 and 21 above (column 7 line 45 – column 8 line 67, Watanabe discloses monitoring that is not based on any timing or clock). Yet, Watanabe fails to explicitly teach wherein said step of monitoring is implemented asynchronously.

However, Romans discloses transmission and collision monitoring for asynchronous data types. Romans teaches wherein said step of monitoring is implemented asynchronously (column 1 lines 25-30 & 50-60 and column 2 lines 45-50).

It would have been obvious for of ordinary skill in the art to modify Watanabe by asynchronously monitoring as per the teachings of Romans so to accommodate asynchronous type traffic on a wireless network.

12. In reference to claims 12,20 and 32, Watanabe teaches the network, method and computer system respectively described in claims 11, 13 and 21 above. Watanabe fails to explicitly teach comprising the further step of setting a backoff period from said contention window by randomly selecting a value between zero and said CW value of said contention window.

However, Romans discloses randomly selecting a backoff value to reduce the probability of collisions before transmission during a contention window. Romans teaches setting a backoff

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period from said contention window by randomly selecting a value between zero and said CW value of said contention window (column 4 lines 43-67 and column 5 lines 1-3 & 61-67).

It would have been obvious for one of ordinary skill in the art to modify Watanabe by randomly selecting a backoff value as per the teachings of Romans to reduce the probability of collisions before transmission during a contention window.

***Allowable Subject Matter***

13. Claims 7-10,16-18 and 27-30, objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

The following limitations if rewritten in independent form would indicate allowable subject matter:

Selecting a contention window value from a range:

for said collision rate between zero up to and including 25 percent, said minimum CW value is three slots; for said collision rate between greater than 25 percent up to and including 50 percent, said minimum CW value is seven slots;

for said collision rate between greater than 50 percent up to and including 75 percent, said minimum CW value is fifteen slots; and

for said collision rate greater than 75 percent, said minimum CW value is 31 slots.



***Response to Amendment***

15. Examiner acknowledges the amendment filed on July 26,2004. Applicant amended claims 1,13,14 and 21, and cancelled claims 3,15 and 23.

***Response to Arguments***


16. Applicant's arguments with respect to claims 1-32 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ramy M Osman whose telephone number is (703) 305-8050. The examiner can normally be reached on M-F 9-5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (703) 308-7562. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

RMO  
October 20, 2004

  
SALEH NAJJAR  
PRIMARY EXAMINER